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AN ANALYSIS OF THE ECONOMIC IMPACT OF THE ACCUMULATION OF ASSETS WITHIN THE AVIATION REPAIRABLE TRACKING SYSTEM

by

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AN ANALYSIS OF THE ECONOMIC IMPACT OF THE ACCUMULATION OF ASSETS WITHIN THE AVIATION REPAIRABLE TRACKING SYSTEM

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ABSTRACT

This thesis sought to research the causes of the accumulation of assets due to unmatched receipts within the Aviation Repairable Tracking system, determine the significance of these assets to the system as a whole and make recommendations for recouping the value of the assets and for applying them to the correct appropriation account. The study was conducted from a management control system perspective. In addition to the economic impact, workload impact on all levels, from fleet to staff, were considered before any recommendations were made. The major recommendation is that a system change be made so that all asset turn ins should be coded as credits and thus they will generate replenishment funds to the specific appropriations and budgets.

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I. INTRODUCTION

A. GENERAL

In this thesis I study the causes and financial impact of the accumulation of reported assets in the aviation repairable system due to receipts not being matched with a corresponding requisition. This phenomena is referred to as "system gains." I review how aviation depot level repairable parts are provided to the fleet/field activities, how they are tracked, and suggest several changes to the tracking system to provide a more accurate valuation of the system inventory and a means of recouping the dollar value of system gains.

Inventory accuracy problems with respect to supply support stocks came to light in the mid-1980's. Because of their high cost and limited availability, attention was focused on aviation repairables. Additionally, decreasing operations and maintenance budgets without a corresponding drop in the requirements for readiness put a premium on the management of aviation depot level repairables (AVDLR). In 1994, the Navy Aviation Supply Office (ASO)--now the Navy Inventory Control Point, Philadelphia--managed over 69,000 repairable line items valued at over $10 billion. [Ref. 1] The value of unmatched receipts as of 1 August, 1995 was over $960 million. [Ref. 2]

In mid-1985, the Navy began stock funding aviation repairables under the direction of the Naval Supply Systems Command (NAVSUP), Washington, D.C. The Navy Stock Fund (NSF) is a revolving fund that finances the inventory. The

fund is reimbursed when a customer, fleet/field activity, requisitions a part from the inventory and the dollar value of the requisition is transferred from the activity's repair budget to the NSF. [Ref. 3]

B. PURPOSE

The purpose of this thesis is to explore the causes and financial impact of the accumulation of assets in the aviation repairable system due to unmatched receipts. The analysis was performed from a management control system perspective. The goal was to identify whether proper policies and procedures are in place and the degree to which they are adhered and to identify a means to recoup aviation repair dollars. The analysis conducted for this thesis indicated that the policies and procedures are either not in place or not adhered to; recommendations are made for changes.

The primary research question is: Are large dollar values of aviation repairables being reported which do not accurately reflect the actual value of the inventories? Subsidiary questions include the following:

1. Are the personnel at the Advanced Traceability and Control (ATAC) Hub qualified to examine and correctly identify material received at the Hub?
2. Are procedures, policies, incentives and tools in place to motivate the ATAC Hub personnel to identify material?
3. Are procedures and policies in place requiring fleet and field personnel to ensure repairable material entered into the ATAC system is properly coded?

4. What is the present incentive to fleet and field personnel to encourage use of the proper coding of documents to ensure the proper accounting for material?

C. SCOPE AND LIMITATION OF THESIS

This thesis examines some of the possible causes of unmatched receipts which result in increases or decreases in the dollar value of the inventory of AVDLRs. To keep the thesis of manageable size and because of the significantly higher dollar value of spare parts involved, the scope has been limited to the aviation repairable population.

D. METHODOLOGY

The background and introductory materials were obtained from personnel at the Naval Aviation Supply Office, the Inventory Control Point for AVDLRs. Field research was conducted at Naval Air Stations Miramar and North Island and the ATAC Hub facility in San Diego.

E. ORGANIZATION

In Chapter II, Background, I examine the existing mechanics of the AVDLR management and control system. Topics include a history of the system and its current status. In Chapter III, Research Methodology, I describe the data collection methods and analysis conducted for this thesis. In Chapter IV, Analysis of Unmatched Receipts, I review the data accumulated and provide a detailed study of possible causes of the phenomena studied. In Chapter V, Summary and

Recommendations, I summarize the thesis and present the conclusions. I give an overall analysis of the relationship between the expectations and goals for the system and the actual operation of the system. I also outline proposed recommendations for the system to bring the goals and operation into alignment.

In Appendix A, I provide a Glossary of Acronyms and Abbreviations. In Appendix B, an Analysis of Major Aircraft Systems Contribution to System Gains, I review the system gains by aircraft type or engine system. I grouped the documents by the Special Material Identification Code (SMIC) In Appendix C, a Listing of Pertinent Document Identifiers, Advice Codes, and Management Codes, I provide a listing of codes to assist in understanding the management control system documents.

II. BACKGROUND

A. GENERAL

In this chapter, I examine and explain the existing management control system in use for AVDLRs. First I review the financial aspects of AVDLRs, how the management control system works, and how it tracks the issue and receipt of parts and subsequent billing actions. Second, I review the system in terms of an AVDLR moving from the ship to the ATAC HUB to the appropriate repair depot and discuss the interaction with ASO. Third, I describe the financial implications inherent in the process. Also, two programs, PRO4 and B15, and the characteristics of each, are reviewed.

B. FINANCING OF AVDLRS

1. The DBOF

The Defense Business Operations Fund (DBOF) is a revolving fund with two major assets, material and cash. It replaced the Navy Stock Fund. AVDLRs have been financed by the DBOF since 1985. The DBOF provides cash to activities and material inventory through depot repairs and by purchases from vendors. When the material is received, it is held in inventory until it is requisitioned by a customer. Upon issue, the DBOF is reimbursed by the customer's operating funds. The issue price of material includes a surcharge to offset the cost of operations. The

surcharge reflects such factors as obsolescence, inflation, inventory loss, transportation, price stabilization and operating expenses at the Inventory Control Points (ICP) and Fleet and Industrial Supply Centers (FISC). The prices are reviewed and adjusted annually. Figure (1) is an illustration of the process. [Ref. 3]

In the past, the value of unmatched receipts, or system gains, has not been used to offset any expenses like the cost of operations of the user's financing appropriations. [Ref. 3] This would involve determining actual system gains, their value, and developing a method to liquidate these gains and transfer the receipts to the required appropriation.

There are three types of financing: DBOF, Appropriations Purchases Account (APA), and Interim Supply Support (ISS) (Pre-Material Support Date), also called contractor support. In this thesis, I explore how to return the credit for systems gains to the appropriate account and if that should be a goal.

2. The APA

The Appropriations Purchases Account is the account used to fund the initial purchase of AVDLRs. This is also a revolving account in the same format as the DBOF. It is replenished when initial issue requisitions are submitted by fleet and field activities. These initial issue requisitions cite a "5G" advice code and reflect the standard cost of the AVDLR.

REVOLVING FUND OPERATIONS

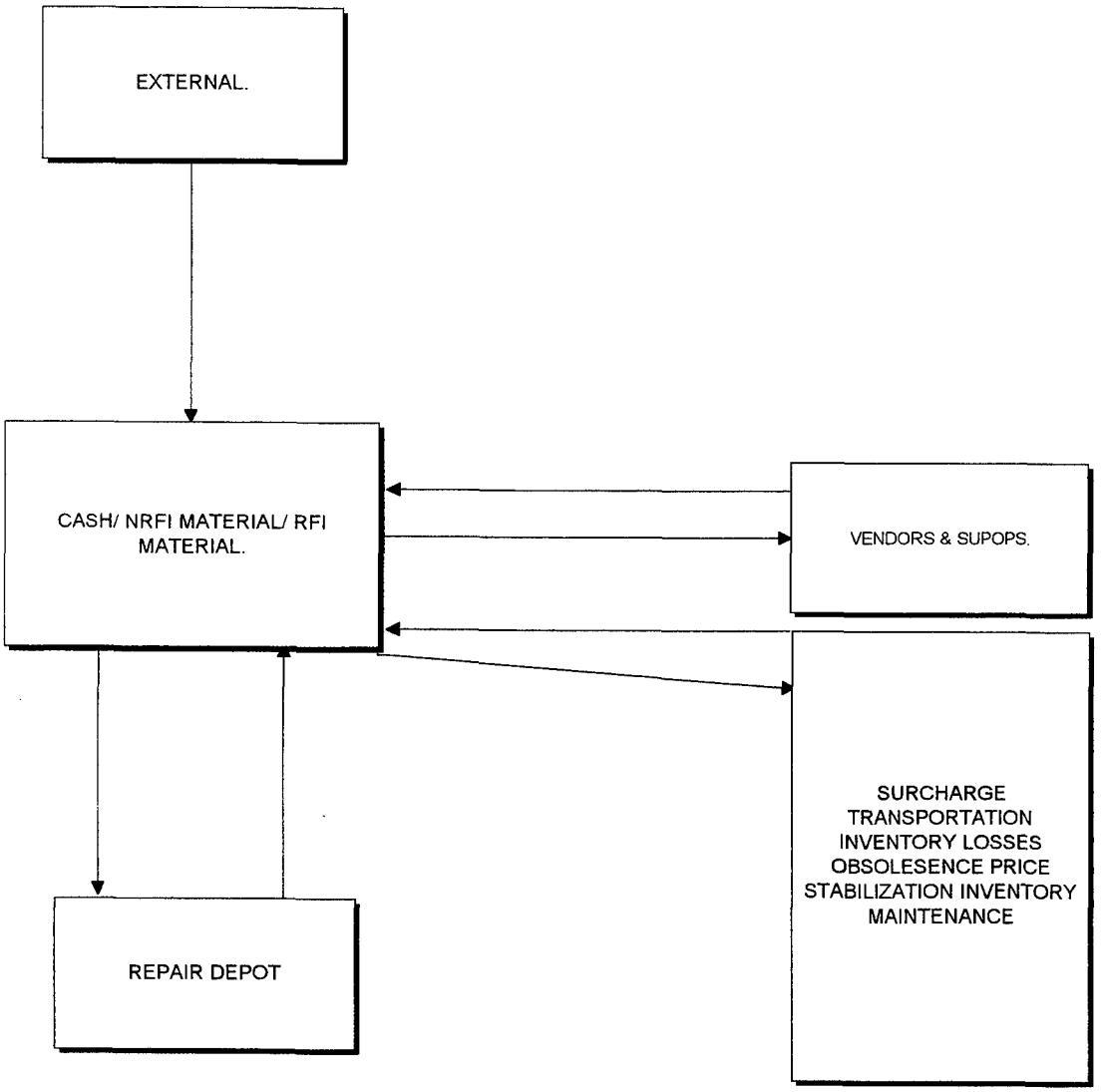

Figure 1. Revolving Fund Operations

3. ISS

Interim Supply Support is the method by which new systems are afforded spare part support. This occurs during the time frame before the Material Support Date. The Material Support Date is the date when the Navy assumes full responsibility for logistical support for a system. Until that time the Prime Contractor for a system will provide the spare part support.

C. AVDLR ALLOWANCE LISTS AND CHARGES

1. AVDLR Allowance Lists

Allowances for AVDLRs are provided to all ships by the same mechanism. The initial outfitting of AVDLRs to an aircraft carrier (CVN) is provided via an Aviation Consolidated Allowance List (AVCAL) which is produced by ASO. The AVCAL allowances are based on a variety of factors such as the planes supported and the maintenance capability of the support structure. The most important factor is the type and quantity of aircraft used by the airwing embarked on the CVN. The next factor considered is the maintenance capability of the squadrons and the CVN's Aviation Intermediate Maintenance Department (AIMD). This is determined by the Beyond Capability of Maintenance (BCM) codes. If a maintenance department is not identified as having the expertise and equipment to work on a piece of gear they are not supposed to work on it. They are to transfer it to the next

higher echelon of maintenance as it is "...beyond the capability of their maintenance." [Ref. 4]

The Source, Maintenance, and Recoverability (SM&R) code for a component signifies what level of maintenance is allowed to remove, replace, repair and condemn a component. The BCM and SM&R codes drive the depth and breadth of the AVCAL. [Ref. 5]

There are three levels of maintenance: organizational (the squadron), intermediate (the AIMD) and depot (a Naval Aviation Depot (NADEP)). If the squadron can repair a component, then the supporting supply department should have an allowance of supporting parts to make use of this maintenance capability. The reverse is also true; if a squadron maintenance person is not authorized to work on a component then the supporting supply department should not have an allowance of the piece parts, or subsystem replacement assemblies (SRAs) for repair.[Ref. 5]

2. AVDLR Charges

The initial allowances of actual parts, listed in an AVCAL, are pushed to the CVN, that is issued without charge. The same is true for allowance quantity increases which occur when a new AVCAL is issued. However, if parts are issued to an end user, like a squadron or the AIMD, the price of the parts is deducted from the end user's supporting activity's Operating Target (OPTAR). This money then flows back to replenish the Navy Stock Fund (NSF). [Ref. 6]

D. THE FINANCIAL BREAKDOWN OF AVIATION REPAIRABLES

AVDLRs are requisitioned on a one-for-one basis: when there is a failed unit, it is removed and exchanged for a new unit. Even if a new unit is not available, the bad unit is removed for repair. Exceptions are made when a new unit is not available and leaving the failed unit in the aircraft provides some level of mission capability or if removing the failed unit effects the mobility of the aircraft. When a Not Ready For Issue (NRFI) unit is properly exchanged for a Ready For Issue (RFI) unit, a "net" (or low) unit price is charged to the end user's supporting activity. If the NRFI unit is not properly exchanged, first the net unit price will be charged to the end user and then a carcass charge will be billed to the end user. The carcass charge plus the net price equal the "standard" (or higher) unit price. The net price is based on average repair costs for the part. The difference between the two prices is the "carcass value." [Ref. 7]

To be a proper matching turn in, the document numbers of the turn in and the replacement requisition must match. If they do not, ASO will run a program which will check the National Item Identification Number (NIIN), the part number (including dashes), or at least the family group code for a match. The family group code identifies parts which are not exact matches but are interchangeable. If the match does not occur the full standard price will be charged. [Ref. 8]

E. PROGRAM PRO4

The introduction of complex weapon systems, like the F/A-18, and equipment into the Navy's inventory has resulted in changes in maintenance philosophies and procedures from those previously employed. The previous systems and philosophies allowed for less control and accounting accuracy. The present systems and equipment are composed of thousands of repairable components which are costly and are often required to be repaired quickly. The need for an improved system of managing these repairable components led to the development of PRO4. There are four key objectives for PRO4:

1. Improve asset viability at both commercial and internal repair facilities.
2. Reduce repair cycle time through improved management techniques.
3. Reduce/justify budget projections through the use of improved repair prices, forecasts, and scheduling.
4. Maximize carcass returns through greater accuracy.

PRO4 is a program, on the ASO computer, within the Uniform Inventory Control Point (UICP) program which monitors repairables management. PRO4 builds a unique data base called the Carcass Tracking File (CTF). The CTF collects and consolidates requisition and Transaction Item Report (TIR) information. The program then initiates tracking based on a "D6R" document identifier and the exchange advice code in the requisition. The "D6A" document

identifier and "E" management code on the turn-in document or a matching document number requisition closes the carcass tracking function.

If the requisition advice code indicates a turn-in is forthcoming, the program initiates carcass tracking 45/60 days from the date of the requisition, based upon requisitioner location. The program is designed to match the turn-in to the exchange requisition with a document identifier of "A0A" or "A4A" for the same document number within 270 days of the initial requisition. [Ref. 9] If the customer executes the turn in document and the replacement requisition properly, the transaction is at the net price. If there is not a match, a bill for the carcass value price is issued. The customer can respond to this bill, that is, challenge it, if they feel the charge should remain at the net price.

There are four types of documents which can be used to expedite the correspondence between ASO and the end-user. These are referred to by their document identifier. A "BK1" is an inquiry from ASO to the end-user asking where the carcass is. A "BK2" is a response from the end-user to ASO. A "BK3" is an advance billing notification from ASO to the end-user normally saying the additional carcass value price is going to be charged against the end-user's OPTAR. A "BK4" is a billing reversal or suppression notification from ASO to the end-user. These documents are normally automated, although there is an off-line "BK2" which is a plain language message. [Ref. 7]

As I stated previously, there are two criteria, either one of which can be met, for a match between a requisition and a turn-in:

a. the family group code of each document must be the same and the document numbers must match for an automatic match or

b. two thirds of the document numbers must match, (i.e., UIC and serial number, UIC and julian date, or julian date and serial number).

After the documents have been checked for a match, one of two events will occur:

a. the matching requisition and turn-in document are located and paired, or

b. an "X" is placed on the unmatched turn-in receipts to show an initial review occurred with no match.

The program reviews these "X" coded turn-in records every three months in an attempt to match them with a requisition.

A system gain occurs when there is a turn-in of a Not-Ready For Issue (NRFI) component without a subsequent requisition for a corresponding Ready For Issue (RFI) component. This situation is referred to as an unmatched receipt. These unmatched receipts can "sit" in the CTF for two years. There is presently an average of three unmatched receipts for every one receipt matched to a requisition. During this time period the inventory value of the CTF can be inflated if the proper

purpose for the turn-in is unknown. If the part will never be needed again, its only value is the salvage value. Therefore, the value of the CTF inventory is over-stated if the parts held are not of full value but are priced at full value. This would not be a true system gain. If the end user somehow had an unaccounted for component and turned it into the system, this would be a real system gain. [Ref. 9]

F. PROGRAM B15

The B15 program is the UICP program, on the ASO computer, which collects data by document number on all AVDLRs turned in as excess. These turn-ins are identifiable by their "D6A" document identifier code and the "C" management code. This signifies that the end user wants to get credit for the turn-in and will not be requisitioning a replacement.

These documents go into B15 for credit determination. The fleet unit receives credit if there are pending orders for these components from other units in the UICP. If there are no pending orders for these components, the fleet unit does not get any credit. [Ref. 10: pg. 22] Additionally, fleet units can query B15 for a credit determination without actually turning in the component. The B15 determination can help the fleet unit choose how to turn in the component. If there is no demand for the part, the unit can turn the part into the B15 system and receive no credit or turn the part into the PRO4 system as a potential exchange for a future requirement--thereby "banking a turn-in."

G. PARTS FLOW

Parts are removed from the aircraft by the squadron maintenance personnel. If the squadron cannot repair a part, they transfer it to the supporting Supply Department who in turn transfers it to the AIMD for repair. If repairing it is beyond the AIMD's capability, the staff will transfer it back to the Supply Department which will transfer the old part into the ATAC system and issue a new part. If the new part is not carried by the Supply Department, the part will be requisitioned. As soon as is practical the CVN will ship the AVDLR to the appropriate ATAC HUB (either San Diego or Norfolk). At the time the part leaves the CVN, the CVN electronically notifies ASO of the shipment with a Transaction Item Report (TIR). When the ATAC HUB receives the part the staff will provide a TIR to the ship and ASO. After review by the ATAC HUB personnel, the part is forwarded on to the appropriate depot for repair. A TIR documents both the receipt and shipment of an AVDLR from all reporting facilities. Figure (2) provides displays of the flow of both the part and the documents. [Ref. 5]

All NRFI AVDLR (or Retrograde) are tracked within the CTF data base within program PRO4. The program begins the tracking process when a requisition or turn in is made with specific advice codes. The PRO4 Program assumes that the turn-in and exchange will occur on the same document number. PRO4 logic validates the family group code of the turn-in against the family group

CARCASS TRACKING

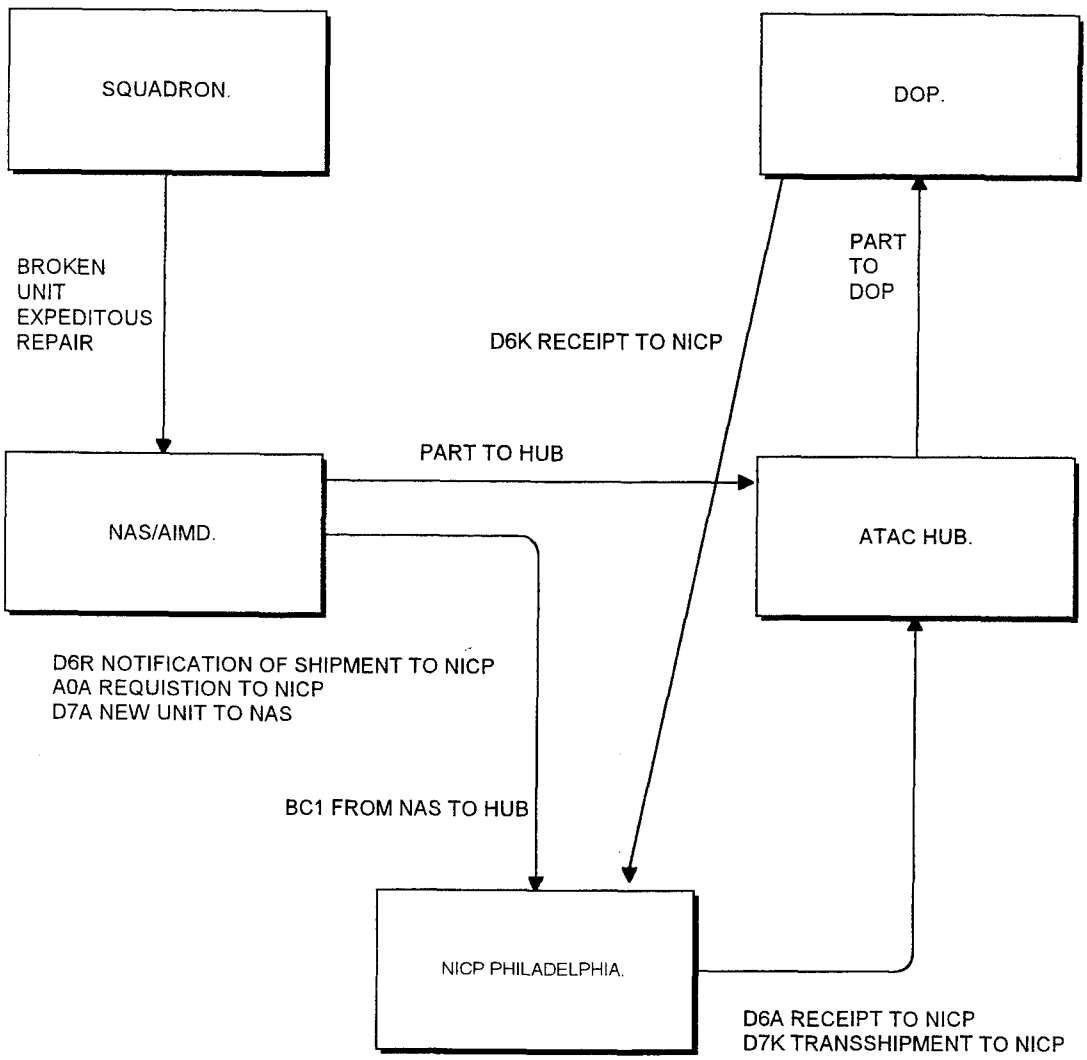

Figure 2. Carcass Tracking

code of the exchange requisition. Parts which are not identical but are interchangeable will share the same family group code. [Ref. 9]

Actual inventories of AVDLRs are not stocked at ASO. Instead, they are prepositioned at stock points owned by the Inventory Control Point (ICP). There are actually two levels of material. "Wholesale" material is owned and controlled by the ICP but stocked at a stock point. The movement, issue, and replacement of wholesale material is directed by the ICP. This material is at the stock point but it belongs to the ICP. For AVDLRs, stock points are Fleet and Industrial Supply Centers (FISCs) and Naval Air Stations (NAS). "Retail" material is purchased and held by the end user. It is held by the CVN, in stock, ready for issue. It is "owned" by the CVN. That is, it is the ship's stock. [Ref. 11]

H. THE ATAC SYSTEM

A key component within the repairables tracking system is the ATAC program. ATAC stands for Advanced Traceability and Control. Prior to the implementation of the ATAC system, fleet units would forward retrograde AVDLRs directly to various repair depots. Repair depot personnel would physically inspect the material and provide a TIR of the receipt to the Inventory Control Point (ICP). Personnel at some depots did not perform this action properly. Additionally, there were delays in reporting assets, and numerous reporting and billing errors due to

inaccurate accounting and inspection. The actual value of the inventory of parts could not be properly determined with any degree of confidence. [Ref. 12]

The ATAC system, through its online capability has improved the accuracy of the carcass tracking program. The "real time" reporting has provided a heightened level of confidence in inventory validity and value. [Ref. 12]

The ATAC system provides traceability and accountability, establishes centralized retrograde processing HUBs, ensures the TIR function is performed and has reduced reporting delays through its real time features. The HUB is the facility through which all Non-RFI AVDLRs flow. There are two HUBs, Norfolk and San Diego, through which all retrograde AVDLRs flow. The HUB is charged with verifying the part identification, correcting erroneous documents, transaction reporting and repacking material for shipment. [Ref 13] Presently, the HUB opens and inspects only one in every three shipments; this decision was made due to staff reductions in response to budget constraints. [Ref. 14]

I. DOCUMENT IDENTIFIERS AND ADVICE AND MANAGEMENT CODES

MILSTRIP data is a set of information codes which are used on different types of documents. Portions of the MILSTRIP data are key to PRO4. They are the document identifier (card column 1-3), the advice code (card column 65-66) and the management code (card column 72). A listing and description of pertinent

document identifiers, advice codes, and management codes is provided in Appendix C.

The document number is a unique number for each requisition from an activity. It is made up of the unit identification code (UIC) of the ordering activity (5 digits), the julian date the requisition was generated (4 digits), and the serial number assigned by the ordering activity (4 digits). Normally, the document number of the requisition and the turn-in should be the same. The document identifier describes what type of document it is; (i.e., a requisition or a turn-in.) The advice code relates to the requisition. The code indicates what type of requisition it is (initial issue or retail) and whether or not a turn-in is forthcoming. This information cues PRO4 whether or not to initiate carcass tracking. The management code relates to the turn-in document, indicating whether or not the transaction is an exchange or a request for credit for which there will be no follow on requisition. [Ref. 15]

III. RESEARCH METHODOLOGY

A. GENERAL

In this chapter, I provide a description of the research methodology used in this thesis. I address study design, sources of data and the manner in which the accumulated data is reviewed. I approach the research questions from the perspective of reviewing a management control system and look at the issues in terms of workload impact on all levels of personnel, ease of implementation of procedural changes, and accuracy of management information.

B. DATA SOURCES

The data for this thesis was gathered from a variety of sources. They included personal interviews, extractions from various files at the Navy Inventory Control Point-Philadelphia and the files of various fleet and shore activities. Background information on aviation depot repairable tracking and management, the UICP programs, and system processes were gathered from current Navy publications and instructions, personal interviews, and the education and experience of the author.

Personal interviews were conducted with personnel at the NICP-P, two Naval Air Stations, one Marine Corps Air Wing, one aircraft carrier, the type commander staff, and the San Diego ATAC hub. These activities were selected based upon

location, the number of transactions from these activities, and the recommendations of NICP-P personnel. The activities whose data were reviewed were:

Naval Air Station North Island, California

Naval Air Station Miramar, California

USS CONSTELLATION

These three activities accounted for more than 3,000 documents with a dollar value of more than $70 million within the unmatched receipt file. The total population of unmatched receipts for Fiscal 1995, as of 1 August 1995, was over 35,000 documents totalling over $969 Million. Table 1 provides a detailed breakdown of the sources and dollar values of the unmatched receipts.

Activities whose procedures were reviewed and recommendations and opinions sought were:

Third Marine Air Wing and subordinate Marine Air Logistics Squadrons

Commander, Naval Air Force, Pacific

FISC San Diego and the ATAC HUB, San Diego

TABLE 1

Breakdown of Fiscal Year 1995 unmatched receipts as of 1 August, 1995. Includes both A and F condition code material.

	NBR OF DOCS.	DOLLAR VALUE
COMNAVAIRLANT		
SHORE ACTIVITIES	6,930	$328,971,464
AFLOAT ACTIVITIES	2,904	$ 91,049,562
TOTAL	9,834	$420,021,026
COMNAVAIRPAC		
SHORE ACTIVITIES	8,983	$277,904,169
AFLOAT ACTIVITIES	1,662	$ 56,606,455
TOTAL	10,645	$334,510,624
OTHER	15,275	$215,056,725
TOTAL SYSTEM	35,754	$969,586,375

C. DATA SAMPLING TECHNIQUES AND METHODS

To determine an answer to research questions one (i.e., Are personnel at the Advanced Traceability and Control (ATAC) Hub qualified to examine and correctly identify material received at the Hub?) and two (i.e., Are procedures, policies, incentives and tools in place to motivate the ATAC Hub personnel to identify material?) interviews were conducted with ATAC personnel (both supervisory and first line) and ATAC customers (both upstream and downstream). A review was made of Reports of Discrepancies (RODS) generated by ATAC personnel and in response to actions by ATAC personnel.

To determine answers to research questions three (i.e., Are procedures and policies in place requiring fleet and field personnel to ensure repairable material entered into the ATAC system are properly coded?) and four (i.e., What is the present incentive to fleet and field personnel to encourage use of the proper coding of documents to ensure the proper accounting for material?), interviews were conducted with personnel at the two Naval Air Stations, onboard USS Constellation, and at the Marine Air Logistics Squadron. These interviews included a review of internal procedures and policies and a comparison of the internal policies and procedures of the different activities.

To determine the scope of the problem, a comparison was made between the individual activities files and those at the Navy Inventory Control Point-Philadelphia. The purpose of this comparison was to determine whether further study was

warranted. The individual activity files reviewed included Shipboard Uniform Automated Data Processing System (SUADPS) files, UICP files, Uniform Automated Data Processing System (UADPS) files and individual personal data files.

Lastly, the impact upon the Navy Stock Fund was reviewed from three perspectives: The total DBOF, the Type Commanders', and the individual unit. The budgets for the DBOF, the Type Commander, and the individual unit provide a baseline for analysis of the impacts.

IV. DATA PRESENTATION AND ANALYSIS OF UNMATCHED RECEIPTS

A. GENERAL

In this chapter, I report the results of my observations of ATAC San Diego procedures and policies. The ATAC San Diego performance data in terms of shipments and RODS are reviewed. Additionally, in this chapter I review the data on unmatched receipts from three activities: NAS North Island, NAS Miramar, and USS Constellation. I compare the transaction levels for the three entities and contrast their procedures and policies. I make extrapolations based upon analysis of the data, interviews with command personnel, and assumptions based on personal experience.

B. REVIEW OF ATAC PROCEDURES

I reviewed ATAC processing procedures in an attempt to answer research questions one and two:

> 1. Are the personnel at the Advanced Traceability and Control (ATAC) Hub qualified to examine and correctly identify material received at the Hub?, and
>
> 2. Are procedures, policies, incentives and tools in place to motivate the ATAC Hub personnel to identify material?

Based on my research, the answer to question one appears to be yes while the answer to question two appears to be a "qualified" yes.

To substantiate these answers I will give an overview of the procedures followed. Material received at the ATAC HUB is initially checked for proper accompanying paperwork. If there is no accompanying paperwork, the material is entered into a screening process to identify what the part actually is. When this process is complete, if the part is actually an AVDLR, it is sent to the Designated Overhaul Point (DOP) for repair. The ATAC procedure is to assume that all material received is in NFRI condition and requires shipment to the DOP for repair. This is not always the case but it is not ATAC procedure to question or check the condition. With various cross reference lists and other technical resources, over 99 percent of all unidentified material is actually identified accurately by ATAC.

The qualification I gave earlier comes into play when the accompanying paperwork exists. When this is the case, if the proper paperwork is with the material, one in three receipts is opened and compared with the paperwork. In these cases, two out of the three receipts are not opened and inspected, the proper paperwork does not guarantee that the part listed on the paperwork is the actual part turned in to ATAC. This misidentified material is not discovered until it is received and opened at the DOP. At this time the DOP will TIR to NICP the actual part received and if this does not match the requistioned part, the end user would receive a "BK1" document as described earlier.

In reviewing the performance data for ATAC San Diego, I discovered that they processed 148,750 shipments to Designated Overhaul Points (DOPs) in FY 1995 with 245 RODS for misidentified material resulting in an error rate of 0.16 percent. This supports the contention that the ATAC personnel are qualified to properly identify material. I contend that if they returned to the 100 percent open and inspect standard of before, they would have an accuracy rate of nearly 100 percent as they did previously.

The bottom line is if ATAC opens and inspects the part they stand a better than 99 percent chance of correctly identifying the material.

C. UNMATCHED RECEIPTS AND TRANSACTION BASES

The total number and value of unmatched receipts in the CTF is 35,754 documents worth $969 million. This includes both A and F condition material. This is compared to the total number of documents within the CTF which totals just over 91,000 documents worth over $17 Billion. [Ref. 2]

The USS Constellation has 148 unmatched documents worth $5.5 million. The ship averages approximately 300 turn-ins annually. These come from three main sources:

1. Changes in allowance levels. These can be based on changes in demand levels or in aircraft deckload.

2. Duplicate receipts based upon actions by external commands (i.e. NICP-P and CNAP both directing shipments from activities resulting in Constellation receiving two parts.)

3. Undiscovered assets which come into the possession of the Supply Department. (i.e. gains in inventory from returned "bench spares.")

The dollar value of her AVCAL is $157 million.

The Naval Air Station North Island has a total, both A and F condition material of 1,557 unmatched documents worth $70 million. Of these, 943 documents worth $33 million are A condition. The number of excess received from "stricken aircraft" in the last year was 650. Those turned into the FISC: 342. The dollar value of their SHORECAL, which is the allowance list for a shore establishment, is $167 million.

The Naval Air Station Miramar has a total, both A&F conditions, of 1,214 unmatched documents worth $32.5 million. Of these, 296 documents worth $12 million were A condition material. The dollar value of their SHORECAL is $239 million. They had 720 items turned in as excess last fiscal year. Of those, 355 were turned into the FISC.

The total value of the DBOF for FY95 was $78 Billion. The CNAP aviation repair money (OFC-50) total for FY95 was $1.166 billion. Of this, USS Constellation received $29.6 million. As a percent of these figures, the unmatched receipts value is significant.

D. COMMAND POLICIES AND PROCEDURES

I now review the command policies and procedures of the three separate activities to highlight contrasts and similarities. My goal is to determine any advantages and disadvantages in their procedures.

1. NAS North Island

At NAS North Island, the Material Division, within the Supply Department, is tasked with receiving material and comparing it to Master Stock Item Record (MSIR) to determine whether or not it is a carried item and, if it is, to determine the quantity on hand. The Material Division staff will prepare and submit a "D6A" document to notify NICP-P of the receipt. All material is assumed to be NRFI. The part is then inducted for repair at AIMD. If AIMD can repair it, they do and return the part to supply to be put on shelf. If it cannot be repaired, AIMD will BCM the part to the depot and the material division at NAS NI would have no more visibility of it. Majority of these parts come from "stricken aircraft." Stricken aircraft are those which have been removed from service by the owning command. The plane is then stripped, the owning squadron would return the components on the "save list" and forward the remainder of the parts to NAS NI material division.

2. NAS Miramar

NAS Miramar has turn in procedures for "material adrift." That is material found in supply spaces that is in excess of the stock record balance and has no supporting documentation to ascertain ownership. If material is identifiable but

ownership cannot be determined it is turned in as "Material Turned into Store (MTIS)." Material will be taken up by supply, inducted to AIMD for test and check. Then if AIMD can repair it they do and return it to supply to be put on the shelf. Supply would establish a MSIR record with the item in A purpose code. If it cannot be repaired, AIMD will BCM the part to the depot and the supply screening unit at NAS Miramar would no longer track the part.

3. USS CONSTELLATION

If a part which is located is RFI, USS Constellation screens the AVDLRs for possible gain into onboard system stock. If the part does not have an RFI tag, it will be inducted into AIMD for test and check. Once its RFI/NRFI status is determined, if it is FRI and it is truly excess and is not going to be kept onboard, it will be turned over to the local FISC. If it is NRFI, it will be turned over to the ATAC system.

E. COMPARISONS AND CONTRASTS

There does not seem to be any material differences between the methods used by these three commands in terms of processing excess material.

F. OBSERVATIONS

All three commands generate excess material. The causes are different and yet similar. The bottom line seems to be that the excess parts are not needed onboard and can be used as an asset by another command. Whether it is in terms

of the actual asset itself or the dollar value of the asset or the salvage value of the carcass.

In looking at the value of the documents involved, the amount of funds which could be generated through credits is significant to the amount of funding used by major end units, that is a CVN or NAS. For NAS Miramar, the value of unmatched receipts is 13.5 percent of their SHORECAL, for NAS NI, the value of unmatched receipts is 41.9 percent of their SHORECAL and for USS Constellation, the value of unmatched receipts is 3.5 percent of her AVCAL.

V. CONCLUSIONS AND RECOMMENDATIONS

A. GENERAL

In this chapter, I outline my conclusions, describe and review my recommendations and list my suggestions for future studies.

B. CONCLUSIONS AND RECOMMENDATIONS

Based upon my analysis there is a potential for the saving of money within both the Type Commander and ICP budgets.

The oldest carcass that I found a command will ever cite for an exchange requisition is one year. Therefore, any document which sits in the CTF, as an unmatched receipt, for longer than one year will probably never be used as an actual exchange. The value of that carcass represented by the document will be lost to the Navy.

The "A" condition receipts which go into PRO4 are basically "lost" assets; the assest they represent are not going to be replaced or they wouldn't be turned in in the first place. "A" condition means it is ready to go into an aircraft. A percentage of them could be put to use to generate credits in a variety of ways. They could be transferred to other commands to fill needs within the Navy as well as the other services. They could be sold to other countries, or sold commercially. Lastly, the RFI assets have scrap or salvage value.

There should be a means for documents to be crossed from PRO4 to B15 to allow for generating credits on a regular basis. The amount of money which is available for credit compared to that which is spent is a significant percentage, anywhere from 3.5 percent of USS Constellation's AVCAL to 19.7 percent of NAS North Island's SHORECAL, as documented in Chapter IV. These funds could be used as a credit to replenish the purchasing or repair appropriations. Additionally, this crediting procedure should not be a one time shot to one program or the other. The procedure should occur at regular intervals throughout the fiscal year to prevent dumping money into an appropriation at a time when it cannot be spent. Based on my observations running the program monthly would be sufficient. Generating these credits through out the year allows for the expedient obligation of these funds.

C. RECOMMENDATIONS

Initially, my main premise was centered around how to incentivize the fleet/field personnel to use the "C" management code. SUADPS and UADPS both use programs which default to a management code of "E" when processing turn-ins. To change this would require a major ADP redesign, which historically are difficult to achieve and time consuming, but which I conclude would be worthwhile when examining the amount of funds involved. Based on this conclusion, I have the following recommendations:

1-The turn in program should default to a management code of "C" vice "E". This would allow for all requisitions to go through B15. There would be an initial check for credit determination. This initial credit determination would allow for the expedient return of funds to the TYCOM. The exceptions to this would be those documents where there will indeed be a follow-on requisition. With these exceptions the end user would indeed cite an "E" management code. Since there are three unmatched receipts in the CTF for every exchange requisition this should not be a major workload impact.

2-When a document goes through B15 one of two things happens. If credit can be granted then no further action is required. If no credit is granted the document would be transferred to PRO4 where it would be held. The command which turned the document in would have the carcass available to cite as an exchange carcass for the next year; as opposed to the current situation in which documents sit in PRO4 for up to two years. After a year from the original date of the document, the document would be processed through B15 again. If the program is now granting credit, do so. If not, compare it to outstanding repair contracts to determine if there is a need for it; if so, grant the type commander credit equal to the carcass value. If no valid need internal to the U.S. Department of Defense exists, transfer the asset to the Defense Reutilization Marketing Office for scrap or salvage. The credit for the scrap or salvage value would be returned to the Appropriations Purchases Account. This puts the material to use regardless of its condition. This transfer of funds would be conducted on a monthly basis to prevent the accumulation of funds at the end of the fiscal year that cannot be spent prior to their expiration. This program would allow for the timely return of funds to the TYCOM or to the APA under NICP-P cognizance.

Basically, I see this as a procedure to swiftly and efficiently return credit funds to the accounts which generated them.

The advantages would include:

The expedient replenishment of TYCOM and APA accounts. Running this credit program on a monthly basis would allow for the TYCOM and APA account funds to be fully utilized on a timely basis.

Routinely decreasing the size of the CTF would allow for it to remain a manageable size as opposed to the over 91,000 documents it currently holds. This would allow for the remaining documents to be examined in a more indepth manner if any study is needed.

D. SUGGESTIONS FOR FUTURE STUDY

1. An area which was not reviewed, but is a possible area for future study, is the impact of the gain of specific parts and their availability. What should be done with excess parts in the long term? The long term could be viewed as one year, two years, or the life cycle of the platform. This could be broken down by specific aircraft type for detailed review.

2. Another area for future study could be the impact of eliminating the use of Management Code "C" completely. This idea was submitted by fleet personnel.

APPENDIX A. GLOSSARY OF ACRONYMS AND ABBREVIATIONS

AIMD	AVIATION INTERMEDIATE MAINTENANCE DEPOT
APA	APPROPRIATION PURCHASES ACCOUNT
ASO	AVIATION SUPPLY OFFICE
ATAC	ADVANCED TRACEABILITY AND CONTROL
AVCAL	AVIATION CONSOLIDATED ALLOWANCE LIST
AVDLR	AVIATION DEPOT LEVEL REPAIRABLE
BCM	BEYOND CAPABILITY OF MAINTENANCE
B15	UICP CREDIT PROGRAM
CNAP	COMMANDER, NAVAL AIR FORCES PACIFIC
CTF	CARCASS TRACKING FILE
CVN	AIRCRAFT CARRIER
DBOF	DEFENSE BUSINESS OPERATING FUND
DOCID	DOCUMENT IDENTIFIER
DOP	DESIGNATED OVERHAUL POINT
FISC	FLEET AND INDUSTRIAL SUPPLY CENTER
ICP	INVENTORY CONTROL POINT
ISS	INTERIM SUPPLY SUPPORT
MTIS	MATERIAL TURNED IN TO STORES

NADEP	NAVAL AVIATION DEPOT
NAS	NAVAL AIR STATION
NASNI	NAVAL AIR STATION NORTH ISLAND
NAVSUP	NAVAL SUPPLY SYSTEMS COMMAND
NICP-P	NAVAL INVENTORY CONTROL POINT, PHILADELPHIA, FORMERLY ASO
NRFI	NOT READY FOR ISSUE
NSF	NAVY STOCK FUND, REPLACED BY DBOF
OPTAR	OPERATING TARGET
PRO4	UICP CARCASS TRACKING PROGRAM
RFI	READY FOR ISSUE
ROD	REPORT OF DISCREPANCY
SHORECAL	SHORE CONSOLIDATED ALLOWANCE LIST
SM&R	SOURCE, MAINTENANCE AND RECOVERABILITY CODE
SMIC	SPECIAL MATERIAL IDENTIFICATION CODE
SRA	SUBSYSTEM REPLACEMENT ASSEMBLY
SUADPS	SHORE UNIFORM AUTOMATED DATA PROCESSING SYSTEM
TIR	TRANSACTION ITEM REPORT
TYCOM	TYPE COMMANDER

UADPS	UNIFORM AUTOMATED DATA PROCESSING SYSTEM
UIC	UNIT IDENTIFICATION CODE
UICP	UNIFORM INVENTORY CONTROL POINT

APPENDIX B. ANALYSIS OF MAJOR AIRCRAFT SYSTEM CONTRIBUTIONS TO UNMATCHED RECEIPTS

Documents are grouped by Special Material Identification Code (SMIC) and applied to specific aircraft type.

System	SMIC	NBR of Documents	Dollar Value
A4	DA	233	$1,424,647
TOTAL		233	$1,424,647
A6	DZ	4	$2,196
	EA	1	$2,242
	FA	1560	$22,139,392
	RA	483	$32,223,942
	TF	29	$79,062
	TY	140	$25,162,602
TOTAL		2217	$79,609,436
EA6	FE	195	$1,951,920
	GE	7	$952,130
	XE	40	$1,192,323
	XF	5	$95,180
	LA	47	$301,249
TOTAL		294	$4,492,802
A3	BA	6	$35,680
TOTAL			$35,680
A7	AQ	7	$33,444
	FN	1	$45,390
	GA	29	$208,500
	TA	25	$141,643
	UA	1	$3,264
TOTAL		63	$432,241

AV8	BC	4	$169,504
	KA	1	$5,328
	UN	37	$2,633,854
	SR	144	$3,099,014
TOTAL		182	$5,907,700
C130	GZ	7	$46,170
	LC	137	$1,147,335
	LZ	2	$13,002
	RZ	12	$49,588
TOTAL		158	$1,256,095
C-2/E-2	BE	167	$3,789,079
	EE	234	$13,374,570
	PE	1	$810
	XC	58	$1,760,628
TOTAL		460	$18,925,087
F4	AY	5	$68,832
	BF	6	$20,761
	MF	65	$489,794
	NN	1	$1,110
TOTAL		77	$580,497
F14	AF	8	$15,045
	AT	3	$111,150
	CY	148	$9,095,722
	PF	1530	$33,898,227
	PQ	40	$953,770
	XN	85	$2,874,649
TOTAL		1803	$46,948,563
F/A-18	AC	980	$6,564,210

	EF	1	$2,808
	GF	800	$11,880,300
	SF	446	$28,317,441
	TN	199	$5,833,446
TOTAL		1445	$52,598,205
H1	AH	178	$4,877,065
	NQ	17	$143,985
TOTAL		195	$5,021,050
H2	BH	62	$1,489,074
TOTAL		62	$1,489,074
H3	DH	420	$11,647,707
TOTAL		420	$11,647,707
H46	MH	488	$7,805,217
	WK	253	$8,945,016
TOTAL		741	$16,750,233
H53	FQ	35	$1,478,128
	LU	409	$13,184,132
	NU	19	$542,620
	QH	220	$3,021,632
TOTAL		648	$18,226,512
OV-10	AV	4	$30,750
	EV	18	$40,870
	LQ	1	$1,490
TOTAL		23	$73,110
P3	BP	1809	$29,937,525
	FP	923	$44,617,826
TOTAL		2732	$74,555,351

EP3C	EP	304	$4,851,737
TOTAL		304	$4,851,737
S2	AS	3	$22,734
		3	$22,734
S3	CS	1059	$54,464,873
	SN	63	$1,377,292
TOTAL		1122	$55,842,165
SH60	HT	46	$2,356,840
	KH	4	$15,320
	NH	1	$4,392
	VH	430	$5,684,300
	XH	65	$4,688,338
	XQ	71	$2,381,437
TOTAL		617	$15,130,627
J52	EN	362	$10,004,215
TOTAL		362	$10,004,215
TRAINERS	BT	1	$8,196
	MN	16	$161,023
	VF	33	$436,157
	DQ	201	$1,080,712
	EQ	266	$3,213,250
TOTAL		517	$4,899,338
GFE	FZ	1427	$8,722,942
TOTAL		1427	$8,722,942
SPECIAL	SX	166	$2,693,766
TOOLS		166	$2,693,766

MISC		3195	$61,048,225
TOTAL		3195	$61,048,225

APPENDIX C. DOCUMENT IDENTIFIERS, MANAGEMENT CODES AND ADVICE CODES

A. DOCUMENT IDENTIFIERS

The document identifier is a code which tells the UICP program exactly what type of document this is. These are some common document identifiers seen in a study of the carcass tracking system.

AOA/AO1-A standard requisition

A4A/A41-A standard referral.

BK1-An inquiry from the ICP asking where carcass is.

BK2-A response, from end user to ICP, to a BK1.

BK3-An advance billing notification from the ICP to the end user. Normally indicates the additional carcass value price is going to be charged against the end user's OPTAR.

BK4-A notification from ICP to end user of a reduced billing.

BK5-Follow-up on transshipment of NRFI transaction card.

BK6-Response from transshipping activity to a BK5.

D6A-Notification from ATAC Hub to ICP of receipt of material.

D6K-Notification from DOP to ICP of receipt of material.

D6R-Notification from end user to ICP of shipment of material.

D7K-Notification from ATAC Hub to ICP of shipment of material.

B. MANAGEMENT CODES

The Management Code is used to provide supplemental data not readily identifiable from the Document Identifier. The Management Code and DOCID work together to define the document. Some Management Codes common to the carcass tracking system are:

C-Indicates the material is submitted for credit to the end user.

E-Indicates the material is submitted as an exchange for a follow on requisition for the same material.

C. ADVICE CODES

An Advice Code may be entered by the requisitioner to provide coded instructions to supply sources when such data are considered essential to supply action. Some Advice Codes common to carcass tracking are:

1. Exchange Advice Codes Tracked

5G--Turn in is on the same document number as requisition/issue. This is the most frequent advice code used by retail customers.

5V--Turn in is on the same document number as requisition/issue. This is telling the inventory manager not to issue a substitute for the NIIN requisitioned.

5S--Turn in is on the same document number as requisition/issue. This code is telling ASO that the failed component will not be turned in until a new unit is received. (Remain in place).

52--Same as 5S with the 5V caveat of no substitute.

2. Non-Exchange Advice Codes - No Tracking Done

5A--No turn in forthcoming. The failed component was lost or is missing. Results in the customer being billed the standard price.

53--Same as 5A with the 5V caveat of no substitute.

5D--No turn in forthcoming. The requisition is for an initial issue or an authorized allowance increase.

5X--Turn in is being made on an alternate document number.

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